

SEP. 21. 2005 3:22PM

NO. 8007 P. 36

Application No.: 09/916611

Docket No.: 00306-00142-USU

EXHIBIT 1

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In re Patent Application of:
Johnnie R. Roberts et al.

SEP 21 2005

Application No.: 09/916611

Confirmation No.: 8709

Filed: July 22, 2005

Art Unit: 1616

For: MANUFACTURE AND USE OF A
HERBICIDE FORMULATION

Examiner: A. N. Pryor

37 CFR 1.132 DECLARATION

1. I am one of the inventors of the above referenced application. I am employed by Helena Chemical Company as a Manager of the Product Development Laboratory in Memphis, Tennessee. A copy of my most recent Curriculum Vitae is attached as Appendix A. In view of the above qualifications, I consider myself an expert in the field of agricultural compositions.
2. I have reviewed the office action which was mailed on November 30, 2004. The examiner has rejected the claims based on composition of AF-300. I have also reviewed and am familiar with AF-300 along with the above identified application.
3. The composition of AF-300 is found on their Material Safety Data Sheet ("MSDS"). MSDS sheet, dated January 2002 (see Appendix 1).

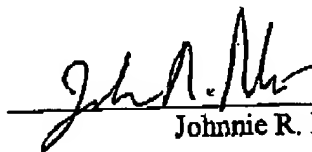
This MSDS sheet shows the following composition:

2,4-Dichlorophenoxy acetic acid at 300 grams per liter
Synthetic ethoxylated alcohol at 50%
Solvent 400 at 235 grams per liter.

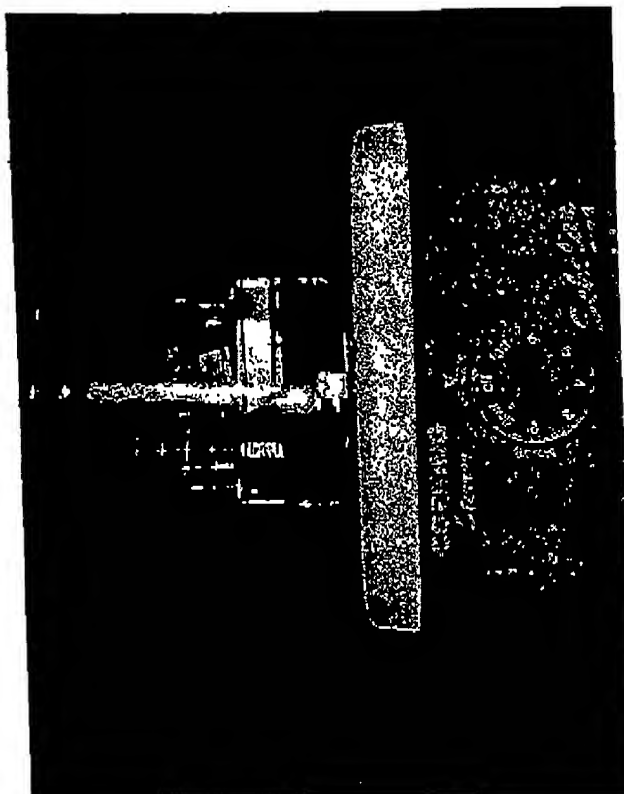
4. According to the MSDS sheet for AF-300, Solvent 400 is kerosene. According to the online chemical reference at <http://chem.sis.nlm.nih.gov/chemidplus> the CAS number used on the AF-300 MSDS sheet (68439-46-3) is also known as Neodol 91-6. (See Appendix 2).
5. The formula was reproduced from the AF-300 MSDS sheet. This formula (A) contained 300 grams per liter of 2,4-D acid, 235 grams of kerosene (or Solvent 400), and 50% by volume of Neodol 91-6. After addition of the Solvent 400 and Neodol 91-6, the solution was clear. After the addition of 2,4-D acid, the formulation became cloudy with chunks of 2,4-D technical dispersed. After 1 hour of stirring at ambient, there was still a substantial amount of undissolved 2,4-D acid in the sample. After an additional 15 minutes of stirring with temperature ramped up to 48 degrees C, the formulation was still hazy with undissolved chunks of 2,4-D acid. After another 15 minutes of stirring and ramping to temperature up to 70 degrees C (dangerous in the presence of Solvent 400), the solution finally cleared and the 2,4-D was solubolized. After 30 minutes of cooling, however, the temperature dropped to 37 degrees C and the solution was hazy again with the 2,4-D coming out of solution. For this reason, this would not be considered a viable formulation.
6. The formula from our Example 1 of the patent application was reproduced. It contained 85% of a C11 alcohol with 3 moles of ethylene oxide, and 15% 2,4-D acid. After the addition of the 2,4-D acid to the ethoxylated alcohol, the formulation became cloudy with chunks of 2,4-D technical dispersed. After 30 minutes of stirring at ambient temperature, the formulation was clear and the 2,4-D acid was fully solubolized.
7. Photos of the formulations are provided in an attached Powerpoint presentation.

8. I hereby declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

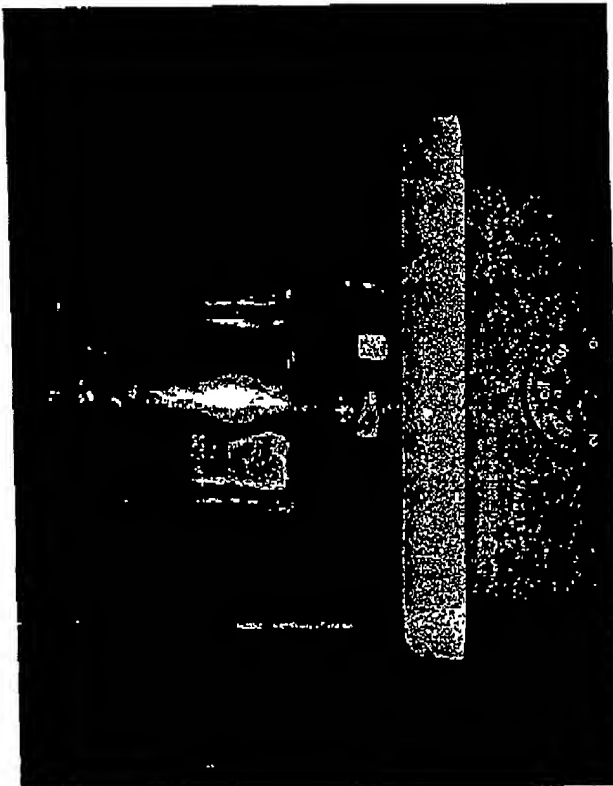
7-22-05
Date


Johnnie R. Roberts

Formulations with liquids only added

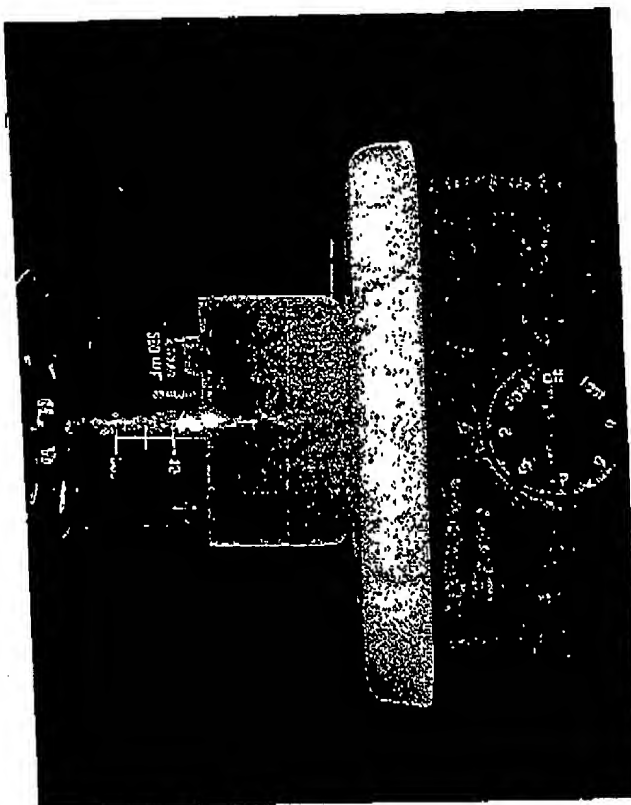


Formula B (HCC Example 1)

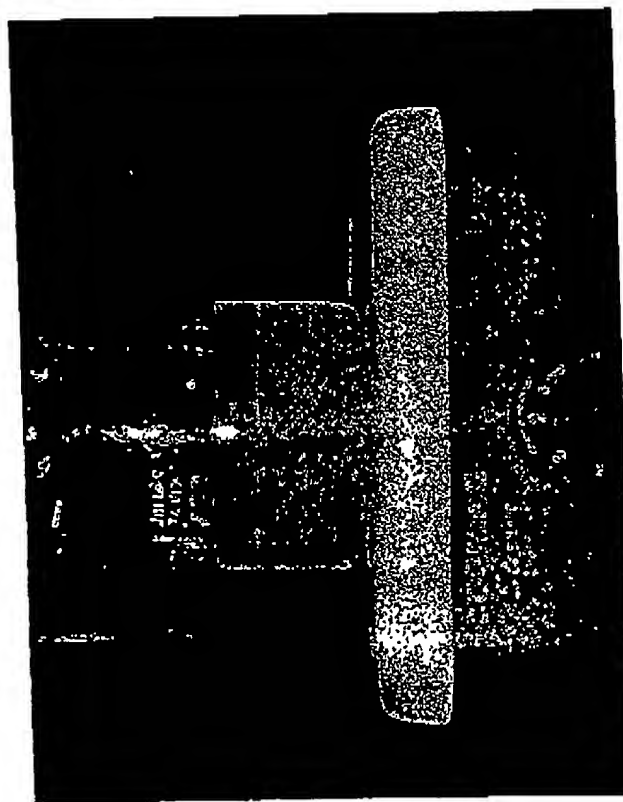


Formula A (AF-300)

Formulations with 2,4-D Acid added



Formula B (HCC Example 1)

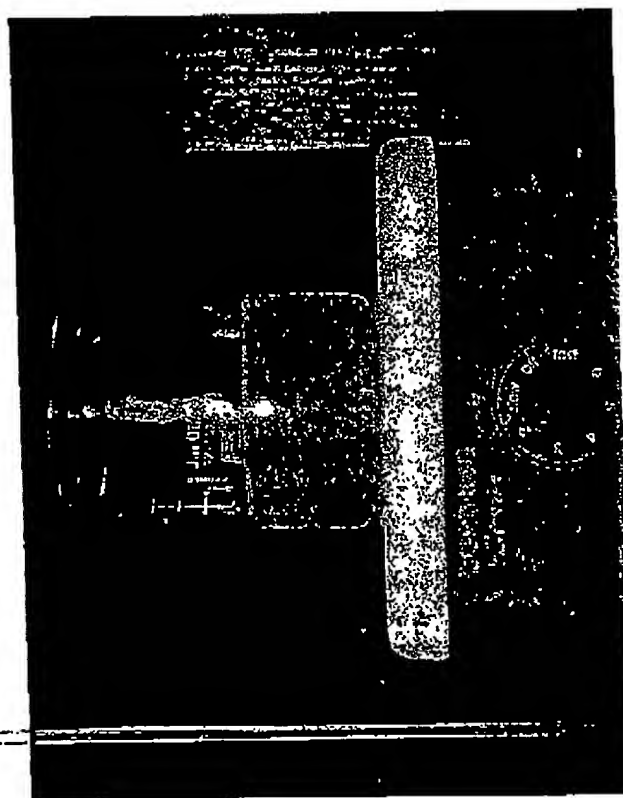


Formula A (AF-300)

Formulations after 1 hour Stirring at Ambient

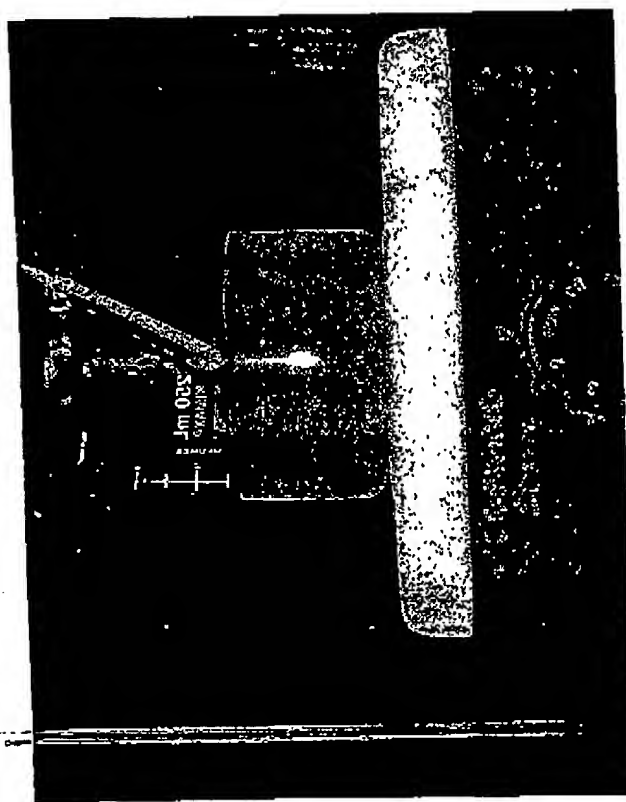


Formula B (HCC Example 1)



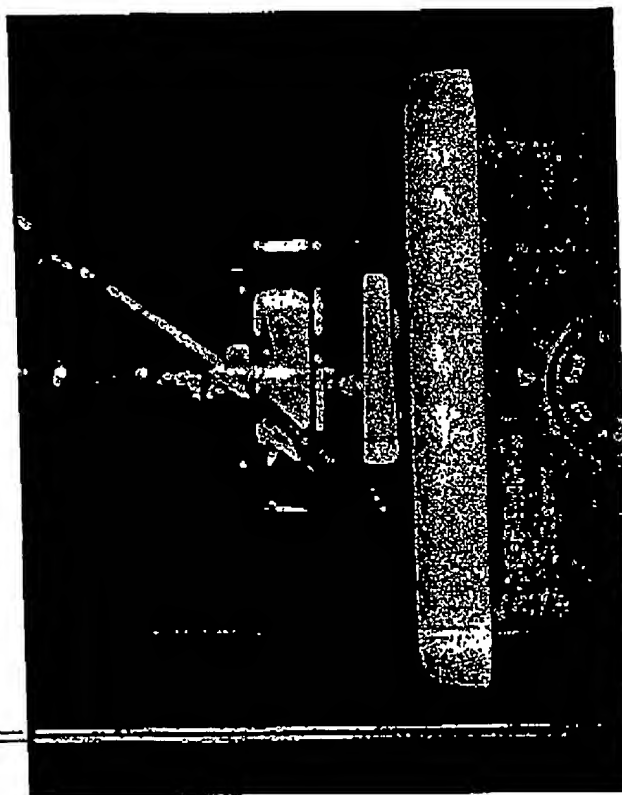
Formula A (AF-300)

Formulation After Additional 15
minutes with Temp ramped to 48
degrees C



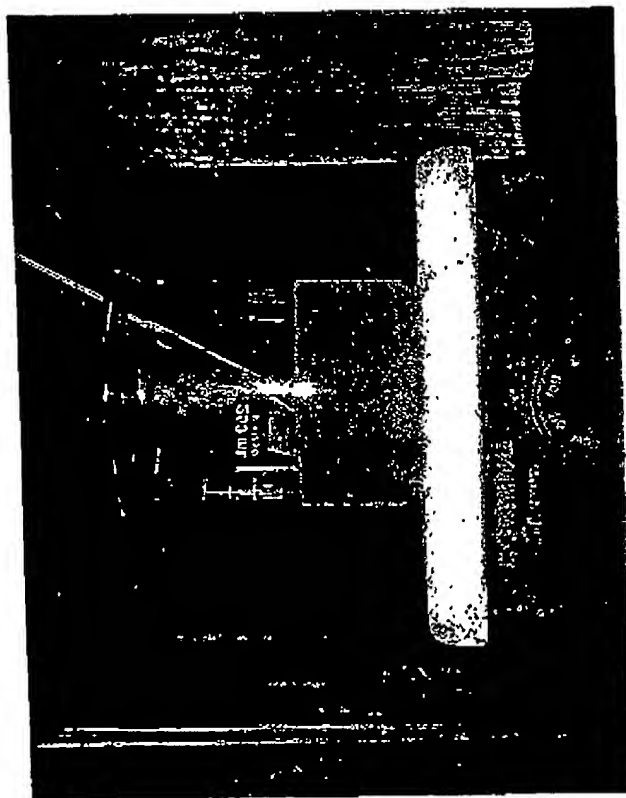
Formula A (AF-300)

Formulation After Additional 30
minutes with Temp ramped to 70
degrees C



Formula A (AF-300)

Formulation After Additional 15
minutes with cooling to
37 degrees C



Formula A (AF-300)

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